

REMARKS

No claims are being added. Claim 13 is being cancelled without prejudice to filing in a later application. Claims 1-2, 5-6, 8-9, 12, 16-18, and 21-22 are being amended. Claim 15 was previously withdrawn under traverse. Claims 1-9, 11-12, 14-18 and 20-22 are pending in the application.

The addition of the limitation to a non-hydroentangled web is supported by the specification as filed which teaches the preparation of web materials without the use of hydroentanglement.

The objection to claim 13.

Claim 13 was objected to because it allegedly did not further limit the subject matter of claim 1. Claim 13 has been cancelled without prejudice obviating this objection.

The rejection of claims 9 and 21 under 35 U.S.C. §112.

Claims 9 and 21 were rejected under 35 U.S.C. §112, second paragraph as allegedly being indefinite. More particularly the Office communication states:

The claims are internally inconsistent. The independent claims from which claims 9 and 21 depend (claims 1 and 16) each require a single layer, however claims 9 and 21 require a second phase. 'Phase' is understood to be synonymous with 'layer'. This interpretation is supported by Applicant's response dated April 4, 2002, see the bottom half of page 15, wherein Applicant argues that the 'phases' disclosed by USPN 5,601,716 constitute multiple layers and are consequently different from the claimed invention.

Page 15, lower half, of Applicant's response mailed on 3/26/2002 states:

- **Pending claim 19 is not obvious in view of the '883 and '716 references, either singly or in combination for additional reasons.**

Amended claim 19 recites in one pertinent part: "wherein said . . . web material comprises a first phase and a second phase . . ." As discussed in Applicants' specification and remarked on above, Applicants' invention includes a single layer, multi-phase web material

having a mixture of fibers throughout the layer with no clear line of demarcation between the two phases.

The '883 and '716 references clearly are directed to web materials having clear interface regions defining distinct layers of fibers therein. The '883 and '716 references do NOT disclose a single layer, multi-phase web material. Under Symbol Technologies, claim 19 is not obvious over the '883 and '716 references, singly or in combination, and is patentable for at least this additional reason.

The text of Applicant's response dated April 4, 2002, respectfully, does not state or imply that "phases" are synonymous with "layers". Further, a computer word search of U.S. Patent No. 5,601,716 does not find any use of the term "phase" or "phases" in that reference. The '716 patent does explicitly disclose a material having at least two superimposed layers.

The term "phase" as used in the infusion web art is meant to denote both a manufacturing process and the web made by that process. In a single phase process all of the fibers are mixed into a fluid to form a single slurry or furnish or phase. This slurry or furnish or phase is poured over a moving porous belt. A vacuum is drawn underneath the belt to help pull fluid from the slurry or furnish or phase through the belt, leaving a more concentrated mix of fibers and fluid on the belt. As more fluid is withdrawn a wet mat of tangled fibers is left on the moving belt. This wet mat is dried to form a web material. The resulting material can be referred to as a "single phase" web material.

In a two phase process a first slurry or furnish or phase of fibers in fluid is prepared. The first furnish is very dilute and comprises more than 95% fluid and may comprise more than 99% fluid. This first slurry or furnish or phase is poured over a moving porous belt. A vacuum is drawn underneath the belt to help pull water from the first slurry or furnish or phase through the belt, leaving a more concentrated mix of fibers and fluid on the belt.

While that first slurry or furnish or phase still contains more than 90% fluid a second slurry or furnish or phase is poured onto the somewhat concentrated first slurry or furnish or phase. The fibers and fluid from the second slurry or furnish or phase will

intermingle with the somewhat concentrated fibers of the first slurry or furnish or phase depending on the fiber composition and manufacturing conditions. This intermingling will continue as the dispersing fluid is withdrawn until a wet mat is left on the belt. The wet mat is dried to form a web material.

The end result can be a single layer, two phase web material having an intermingled mixture of fibers from the first slurry or furnish or phase and the second slurry or furnish or phase. Depending on the fibers used and manufacturing conditions chosen a two phase web material may have distinct layers of different fibers in the cross section; or it may have a gradation of fiber types across the cross section with no discernible interface region; or it may have a substantially homogeneous mix of fibers in the cross section. Such a web material is referred to as a "two phase" web material to indicate the manufacturing process, although a micrograph of the cross section may be very similar to a web material made using a single phase process.

The rejection of claim 12 under 35 U.S.C. §112.

Claim 12 was rejected under 35 U.S.C. §112, second paragraph as allegedly being indefinite. More particularly the Office communication states: "The metes and bounds of the claim are unascertainable as it is not clear what the dry crimp strength is of the fibrous non-woven non-heat seal porous web material lacking the synthetic fiber material against which the claimed web is compared."

Applicant respectfully points out that the value for dry crimp strength recited in claim 12 will be relative and not absolute. That is, if a web material without synthetic material will have a dry crimp strength of X gm/in than a web material meeting claim 12 will have a dry crimp strength at least 20 percent greater, or at least 1.2 times X. The absolute value of X is not important.

Applicant's specification at pages 6 to 10 teaches how to make the claimed web material with synthetic material. A person skilled in the art would be able to follow the instructions of Applicant's specification and prepare a web material similar to the claimed web material without the synthetic material. Applicant's specification at pages

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12 to 13 teaches how to measure dry crimp strength in a web material, thus the dry crimp strength of web materials with and without synthetic material can be tested and compared. If the dry crimp strength of the web material with synthetic material is at least 20 percent greater than the dry crimp strength of the web material without synthetic material the claim limitation is met. Applicant's EXAMPLES include data wherein web materials with and without synthetic materials are prepared and tested for dry crimp strength. Applicant respectfully traverses this rejection and asserts that pending claim 12 is definite.

The rejection of claim 22 under 35 U.S.C. §112.

Claim 22 was rejected under 35 U.S.C. §112, second paragraph as allegedly being indefinite. More particularly the Office communication states: "The terms 'acceptable' and 'unacceptable' are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention."

Claim 22 has been amended and is in condition to overcome this rejection.

The rejection of claims 1-3, 5-8 and 12-14 under 35 U.S.C. §102(b).

Claims 1-3, 5-8 and 12-14 were rejected under 35 U.S.C. §102(e) as allegedly having each and every feature and interrelationship anticipated by U.S. Patent No. 5,292,581 to Viazmensky et al.

As an initial matter paragraph one of point 9 rejects claims 1-3, 5-8 and 12-14 under 35 U.S.C. 102 while the remaining paragraphs of point 9 discuss claims 1-3, 5-8 and 11-20 under 35 U.S.C. 102. Applicant addresses this rejection as a rejection of claims 1-3, 5-8 and 11-20 under 35 U.S.C. 102.

U.S. Patent No. 5,292,581 to Viazmensky et al.

The '581 reference teaches a nonwoven web material having a typical basis weight of 20 to 110 g/m² and preferably made from natural fibers and manmade cellulosic fibers such as rayon for biodegradability. The '581 reference does indicate that non-cellulosic fibers can be used at the expense of biodegradability. The '581 web material is strengthened by the addition of small amounts (up to 2%) of wet strength agents that are added to the fiber slurry prior to web formation. The '581 web material is not treated with a postformation bonding agent. Hydroentanglement is required by the '581 reference. The web material of the '581 reference has sufficient strength for use as a wet wipe but will still break up during travel in a sewer or septic system and will, preferably, completely biodegrade.

Hydroentangling is the use of fluid jets directed into the still wet fiber mat to entangle the fibers within the mat. The '581 reference discusses the hydroentangling process from column 4, line 66 to column 5, line 13. Because hydroentanglement physically moves and entangles the fibers within the mat, a web material made using hydroentanglement will have different physical characteristics than a web made from the same materials but without hydroentanglement.

The present application

The present application is directed to web materials having a typical basis weight of 9 to 19 g/m² that are made from natural fibers and synthetic, thermoplastic material such as polypropylene and polyethylene. While the material of the present application may use preformation wet strength agents it will also use about 2 to 25 percent of a postformation binder. Use of a postformation binder is known in the art, discussed in the application at page 14, line 25 to page 15, line 2. As is known in this art postformation binders are typically used in amounts of 3 to 25 percent by weight of the web. The web material of the present application does NOT use hydroentanglement or have hydroentangled fibers as that term is taught in the '581 reference. Because the present web material is designed for use in hot or boiling aqueous environments the

web material of the present application is not expected to break up in a sewer.

"It is elementary that an anticipation rejection requires a showing that each limitation of a claim must be found in a single reference, practice, or device." In re Donohue, 226 USPQ 619, 621 point 2 (Fed. Cir. 1985). Further, to be prior art under 35 U.S.C. §102 a reference must contain an enabling disclosure of the invention. Chester v. Miller, 15 USPQ2d 1333, 1336 note 2 (Fed. Cir. 1990).

- **Amended claim 1 is not anticipated by the '581 reference.**

Amended claim 1 recites:

A fibrous non-woven non-heat seal porous web material consisting of a single, non-hydroentangled wet laid layer and comprising a substantially homogeneous mixture of 0.5 to 25 percent by weight of synthetic thermoplastic material with natural fibers comprising the remainder of said web material.

The '581 reference teaches use of hydroentangling on the web material therein while the present application claims a web material without hydroentanglement. Claim 1, and claims dependent therefrom, are not anticipated by the cited reference and are patentable for at least this reason.

- **Claims 6 and 7 are not anticipated by the '581 reference.**

Claim 6 recites in part: "The web material of claim 1, wherein the synthetic material comprises synthetic pulp having a micro-fibrillar structure . . ." Synthetic pulp materials are described in Applicant's specification at page 6, line 14 to page 7, line 23. These materials are synthetic thermoplastic polymeric materials having a micro-fibrillar structure. This pulp structure is different from the rod-like morphology or synthetic fibers. Thus, as is known in this art, synthetic pulp and synthetic fibers are different materials.

The Office communication asserts: "Regarding claim 6, the reference teaches cellulosic synthetic materials (col. 3, lines 22-27)."

Column 3, lines 17-27 of the '581 reference states:

As mentioned, the nonwoven web material also contains a significant concentration of man-made fibers blended with the wood pulp. The typical man-made fiber is regenerated viscose rayon. However, as will be appreciated, the man-made fiber component is not limited to viscose rayon, but can include other cellulosic fibers. For example, cellulose acetate, polyester, nylon or polypropylene fibers also may be used. To assure complete biodegradability, the man-made fibers preferably are of a cellulosic character and non-cellulosic fibers are not employed.

The cited text of the '581 reference discloses the use of synthetic thermoplastic fibers. As discussed above synthetic thermoplastic fibers have a different morphology than the synthetic pulp described in Applicant's specification and recited in claims 6 and 7.

Applicant respectfully submits that the '581 reference does NOT teach or suggest the use of synthetic pulp as described in Applicant's specification. Applicant respectfully traverses this rejection. Claim 6 is not anticipated by the '581 reference for at least this reason. Claim 7 recites similar features and is similarly patentable for the above reason.

- **Claims 12-14 are not anticipated by the '581 reference.**

The Office communication asserts: "The properties of claims 12-14 are met since the reference teaches the same web made by the same process, therefore exhibiting the same claimed properties."

The '581 reference requires the use of hydroentangling. The present web material is devoid of hydroentangling or hydroentangled fibers as defined in the '581 reference. Thus the reference material and claimed material are made by different processes and as a result have different properties and physical characteristics. Claims 12-14 are not anticipated by the '581 reference for at least this reason.

- **Claim 15 is not anticipated by the '581 reference.**

Amended claim 15 recites in part: "An infusion package comprising the web material of claim 1 having a basis weight of 9 to 19 g/m²," The Office

communication states: "Regarding claim 15, the ultimate intended use of a product is considered for structural implications attributed to that use. In the instant case, no structural implications are inferable from the intended use that would cause the claimed product to be distinguishable from the product of the reference."

The '581 reference is directed to a hydroentangled web material for a wet wipe application. The '581 reference teaches a typical basis weight of 20 to 110 g/m². At a basis weight of 19 g/m² the required hydroentanglement process will create lower basis weight areas or "thin spots" in the web material. While these thin spots may not be objectionable in a wet wipe application they would allow beverage precursors to filter or sift at an unacceptably high rate through an infusion package made from this material. The material of claim 1 is not hydroentangled and therefore free from the thin spots created by hydroentanglement. An infusion package made from the material of claim 1 will have an acceptable sift value.

The rejection of claims 4, 18 and 22 under 35 U.S.C. §103(a).

Claims 4, 18 and 22 were rejected under 35 U.S.C. §103 as being unpatentable over U.S. Patent No. 5,292,581 to Viazmensky et al.

As stated in MPEP §2143, to establish a *prima facie* case of obviousness three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

• **The prior art references do NOT teach or suggest all the claim limitations.**

As discussed above, claim 1 is directed to a web material "consisting of a single, non-hydroentangled wet laid layer". The '581 reference requires hydroentanglement and the presence of hydroentangled fibers. Applicant's web material is not taught or suggested by the '581 reference. Claim 1, and claims dependent therefrom, are not

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prima facie obvious over the cited references and are patentable for at least these reasons. Claims 16 and 22 contain similar limitations so that claims 16 and 22, and claims dependent therefrom, are not *prima facie* obvious over the cited references and are patentable for at least these reasons.

- **Claim 22 is patentable for additional reasons.**

Claim 22 recites in one pertinent part: "A non-woven porous infusion web material". Claim 22 in another pertinent part states that: "the web material has a basis weight from about 9 g/m² to about 19 g/m²". As discussed above the web material of the '581 application is hydroentangled. The hydroentangled web material of the '581 application at a basis weight of 19 or less g/m² will have thin spots and unacceptably high sift for use as an infusion web material. The '581 reference does not teach or suggest these limitations of claim 22. Claim 22 is not *prima facie* obvious over the cited references and are patentable for at least these reasons.

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In summary, Applicant has addressed each of the objections and rejections within the present Office Action. It is believed the application now stands in condition for allowance, and prompt favorable action thereon is respectfully solicited.

The Examiner is invited to telephone Applicant's attorney if it is deemed that a telephone conversation will hasten prosecution of this application.

Respectfully submitted,

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